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Patient mobility, health care quality and welfare☆

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ABSTRACT

Patient mobility is a key issue in the EU which recently passed a new law on a patient's right to EU-wide provider choice. In this paper we use a Hotelling model with two regions that differ in technology to study the impact of patient mobility on health care quality, health care financing and welfare. We show that without patient mobility quality is too low (high) and too few (many) patients are treated in the high-skill (low-skill) region. The effects of patient mobility depend on the transfer payment. If the payment is below marginal cost, mobility leads to a 'race-to-the-bottom' in quality and lower welfare in both regions. If the payment is equal to marginal cost, quality and welfare remain unchanged in the high-skill region, but the low-skill region benefits. For a socially optimal payment, which is higher than marginal cost, quality levels in the two regions are closer to (but not at) the first best, but welfare is lower in the low-skill region. Thus, patient mobility can have adverse effects on quality provision and welfare unless an appropriate transfer payment scheme is implemented.

1. Introduction

Cross-border patient mobility is a key issue in the European Union at the moment. Despite the fact that patients in EU member states are allowed to seek health care in other EU countries, patient mobility is still very low, especially for planned health care treatments.[1] A natural explanation for low mobility is that patients prefer to be treated in their home country. However, there might be other causes. Patients might be denied access and/or reimbursement if they demand treatment

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[1] According to the European Communities (2006) the demand for cross-border health care represents only around 1% of public spending on health care, which is currently around € 10 billion. This estimate includes cross-border health care which patients had not planned in advance (such as emergency care), which means less than 1% of the expenditure and movement of patients is for planned cross-border health care, like hip and knee operations or cataract surgery.

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in a foreign EU country.[2] In March 2011 the EU council passed a new law that gives citizens in EU countries the right to choose among health care providers across all EU member states.[3] The new law intends to limit the scope for EU countries (or providers within EU countries) to deny foreign EU citizens access to their health care provision. The law also explicitly states that EU countries cannot refuse to reimburse patients who seek cross-border medical treatment when this treatment is covered in their home country.[4] Thus, by lowering important barriers for patients seeking care in another EU country, the new law is likely to stimulate patient mobility across EU member states.

In this paper we ask whether patient mobility is desirable or not from a welfare perspective. Clearly, the answer to this question relies on what are the effects of patient mobility on the provision and financing of health care within each country, which is what we will study in detail. While our paper is motivated by the on-going debate and the new legislation in the EU on cross-border medical treatment, our analysis also applies to patient mobility within country borders, where regions are separate jurisdictions. For example, Sweden has a decentralised health care system, which is financed primarily through taxes levied by county councils and municipalities. County councils also regulate the level of service offered by the providers. In 2003 a 'free choice reform' was implemented, which allows patients to apply for health care outside their home county, though needing to pay out-of-pocket for the extra travel costs. The home county would need to compensate the county providing the treatment to their residents. Similarly, in Italy each region is responsible for the provision of health care. However, many patients seek care in a different region from the one where they reside and a system of transfers is in place: 'importing' regions are compensated on the basis of the number of patients treated from the 'exporting' ones. In Canada, provinces are responsible for the provision of health care. Mobility across provinces is generally limited to emergency and sudden illness or allowed only in special circumstances (for example a specialised treatment not offered in a province) under prior approval.

Relatively little is known and understood about patient mobility and its consequences for health care provision, health care financing and regional and global (inter-regional) welfare. We aim to contribute towards filling this gap in the literature. In order to analyse patient mobility across separate jurisdictions, we make use of a Hotelling model with two regions. Health care is financed through income taxation. Patients receive care for free at the point of use, but face the cost of travelling to the provider for treatment.[5] The policy makers in each region decide on the quality of health care provision in their region and the corresponding tax rate to finance their health care expenditures. The regions are identical except for their ability to provide high quality of health care, e.g., due to access to more skilled doctors, better medical technology, better facilities, etc. All else equal, the high-skill region will offer higher health care quality than the low-skill region.[6] This is the source of patient mobility in our model.

The main objective of our study is to compare the system with no patient mobility (the old system within the EU) with a system where mobility is allowed and (potentially) a system of transfers can be put in place (the new system within the EU).[7] First, we show that allowing for patient mobility without any form of transfers generates a 'race to the bottom' with lower quality in both regions. This arises because the high-skill region has a lower marginal benefit from quality: higher quality attracts patients from the low-skill region, but does not generate any revenues. The low-skill region also has poor incentives to increase quality: lower quality shifts more patients to the high-skill region, which reduces the health-care costs in the low-skill region. An important implication is therefore that allowing mobility within the EU without any form of transfer system is undesirable.

The comparison leads to different conclusions if a system of transfers is in place. Suppose that the low-skill region pays a price equal to the marginal cost for every patient treated by the high-skill region. In this case, patient mobility can generate a (weak) Pareto improvement compared to a system with no mobility. The high-skill region is indifferent because the marginal cost of treating the patients is exactly compensated by the price. The low-skill region is better off because patients who move to the high-skill region receive higher quality, which in turn reduces the incentive of the low-skill region to provide quality. This result suggests that within the EU a price system can be introduced which improves global welfare without making any single country worse off: countries that import patients can be compensated by an adequate price and countries that export patients can benefit from the higher quality.

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[2] Several EU Court cases illustrate the problem where patients are refused reimbursement by the home country for cross-border treatment; see, e.g., Case C-158/96 (Kohll, 1998), Case C-120/95 (Decker, 1998) and Case C-372/04 (Watts, 2006). Although the EU Court decided in favour of the patients, it is still likely that patients face uncertainty and costs related to reimbursement for cross-border treatment. See, e.g., the European Communities (2006) for a discussion of these cases.

[3] Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare.

[4] The EU directive (chapter III) defines some basic principles for the cross-border reimbursement, but is not very specific on the transfer payments across the member states and the reimbursement to patients seeking cross-border care. Thus, the EU member states have some discretion in designing the reimbursement rules.

[5] In an extension (Section 6) we allow for provider charges to affect the patients' choice of demanding care in their home region or in the neighbouring regions.

[6] Cross-country differences in health care quality could of course be driven by demand-side factors such as income. However, empirical evidence show that countries with fairly similar income levels experience large differences in health care quality, see for instance the survey by Docteur and Berenson (2009).

[7] Legido-Quigley et al. (2012) discuss some of the challenges and potential obstacles involved in establishing a transfer payment scheme for cross-border health care within the EU. For example, cross-country differences in health care institutions often imply very different methods of calculating treatment costs, with corresponding differences in the price setting rules applied.